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ABSTRACT

Investigating the interaction of a number of complex variables, this study looked at whether the relationship between principal and teacher behavior involved an interaction among salient situational characteristics and principal leadership, as is proposed by the Path-Goal Theory. Specifically, researchers asked whether the relationship between the teachers' classroom management (as is evidenced by student disruptive, off-task, or other inappropriate behavior) and the principal's leadership emphasis (in the form of relationship-oriented or task-oriented behavior) is mediated by particular situational characteristics (in this case, subject matter taught and years of experience in the school). Subjects were 51 teachers and all principals from 11 junior high schools. Data were collected through teacher and principal questionnaires. In general, results confirmed the theoretical importance placed on contingency relationships by the Path-Goal Theory. All results involved an interaction between a leadership and a contingency variable. In addition, the results provided evidence that the two basic theoretical constructs of the Path-Goal Theory, relationship and task orientation, are meaningful in differentiating among leaders, although a reconceptualization of these constructs might be useful. (Author/JM)

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The Relationship of Principal's Leadership Priorities and Teachers' Classroom Management Skills

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The Relationship of Principal's Leadership Priorities and Teachers' Classroom Management Skills

The following report represents a synopsis of a dissertation (Galligan, Note 1) which considers the relevant literature, data collection and analyses, and results in a more comprehensive manner.

The hypothesis of this investigation was that principals' leadership is related to teachers' behaviors. This hypothesis was based on empirical evidence from educational research and on a theoretical argument current in the leadership literature. The theoretical model used was the Path-Goal Theory, which contends that the relationship between leader and subordinate behavior will differ depending on the particular contingencies in the situation. Thus, the present study investigated whether the relationship between a principal's and teacher's behavior involved an interaction between salient situational characteristics and the principal's leadership emphases.

The major areas of leadership considered were the amount of emphasis principals reported placing on relationship- and task-oriented leadership. These areas of leadership were investigated in two ways. First, following past research, the absolute levels of each area were used in analyses. In addition, the ratio of relationship-orientation to task-orientation was used. The major criterion considered was the classroom management skills of the teachers. Primary interest was in this teacher attribute because of empirical evidence that teaching effectiveness is related to classroom management (Bennett, 1978; Anderson, Evertson, & Emmer, Note 2). The present report will address results related to these major predictor and criterion variables. Two

contingency, or situational, variables were considered: the subject matter taught and the number of years teachers and principals had worked in the same school.

In general, results confirmed the theoretical importance placed on contingency relationships by the Path-Goal model. That is, all obtained results involved an interaction between a leadership and contingency variable.

In addition, the results provide evidence that the two basic theoretical constructs of the Path-Goal model, relationship- and task-orientation, are meaningful in differentiating among leaders. However, the current results suggest that a reconceptualization of these constructs might be useful. Only one of the results involved either of these constructs per se. The rest of the results concerned a measure of the relative mix of the constructs, i.e., the score representing the ratio of relationship-orientation to task-orientation. These findings suggest that, at least when studying certain contingency variables, it may be more useful to investigate the contrast of leaders' relationship- and task-orientations rather than the absolute levels of those constructs.

Review of the Literature

It is generally believed that organizational attributes of a school are related to the behavior of the individuals in that school. However, initial empirical attempts at describing such relationships were ineffective. The largest and most widely publicized of these attempts have been Coleman, Campbell, Hobson, McPartland, Mood, Winfield, and York's (1966) report on Equality of Educational Opportunity; the Plowden Report (1967); and Jenck's (1967) Inequality: A Reassessment of the

Effect of Family and Schooling in America. The failure of these early studies can mainly be attributed to the nature of the school variables investigated. Virtually all of the studies were concerned with the structural characteristics of the school, e.g., number of school facilities, supplies, and library expenditures.

It could be argued, however, that it is the process, rather than structural, characteristics of the school which are related to the organizational behavior of the school members. This argument is based on the notion that the structural characteristics of an organization are more removed from the experience of the individual actors within the organization than are the process characteristics. (See Indik, 1968; James & Jones, 1976; James & Jones, 1979; and Jessor & Jessor, 1973 for elaborations of this argument.)

In fact, recent investigations which have examined process characteristics of the school organization have been more successful in discovering relationships between school-level attributes and the behavior of the school staff. Representative of these studies are those of Brookover, Schweitzer, Schneider, Beady, Flood, and Wisenbaker (1978) and Rutter, Maughan, Mortimore, Ouster, and Smith (1979). These investigators have posited the notion of "school climate" in order to explain their results. That is, they have suggested that there is a general atmosphere characteristic of a school which is a determinant of the behavior of the school staff. Even though research concerned with the "school climate" construct has succeeded in discovering statistically significant relationships between school-level variables and staff behavior, the construct is very nebulous and the mechanisms by which

these empirically determined relationships might hold have not been delineated.

In the absence of a clear model to guide our thinking about school climate, we can utilize the insights provided by educational case studies in order to hypothesize which components of the school organization are critical in determining the school climate. Three recent case studies (Brookover & Lezotte, 1977; Grant & Austin, 1978; Venezky & Winfield, 1979) have approached this issue. The authors of these studies have identified outstanding schools on the basis of some measure of academic achievement and then studied them extensively in an attempt to determine what factors may have been influential in making them conspicuous in regard to the criterion used. A finding common to these case studies is that the behavior and attitudes of a school's principal are among the critical determinants of the climate, and thus, the effectiveness of the school.

In fact, it is a "widely held assumption" in educational literature that a high degree of principal leadership is associated with more productive schools and higher staff morale (Averch, Carroll, Donaldson, Kiesling, & Pincus, 1974). However, the empirical support for the assumption is scant. Moreover, no clear theoretical model has been postulated to suggest how the principal might effect school characteristics. Given this situation, it has been necessary to go beyond the strict confines of educational research and to study the literature regarding leadership in order to pursue the ultimate goal of this investigation, i.e., to investigate the association between the behavior and attitudes of principals and their teachers.

The empirical and theoretical groundwork for current studies of leadership has been provided by the Ohio State Leadership Studies. [See Fleishman (1973) for a first hand retrospective on these investigations.] Ten categories of leader behavior were measured in the original Ohio State research: initiation, representation, fraternization, organization, domination, recognition, production emphasis, integration, communication-up, communication-down. As reported by Fleishman (1973), early factor analyses led to the conclusion that most of the variance in leader behavior could be explained by two main dimensions: Consideration and Initiating Structure. Consideration involves leader behavior which indicates feelings of warmth, friendship, trust, and respect for subordinates. Initiating Structure refers to leader behaviors which generally involve the organization of roles and tasks within the group and the definition of goals. Most research subsequent to the early work has focused on these two main dimensions. However, the attempt to find a consistent relationship between these leader dimensions and subordinate performance has been fruitless.

Recent theoretical formulations have attempted to account for this history of inconclusive empirical findings by suggesting that the nature of the association between leader and subordinate behaviors will differ depending on the particular situation being examined.

One such model is the Path-Goal Theory. The basic proposition of the Path-Goal Theory is that leader behavior is effective to the extent that it enhances subordinate psychological states which increase motivation to perform or job satisfaction (House & Dessler, 1974). The specific leader behaviors which might accomplish this role are determined by the particular situational context. The empirical work related

to the theory has followed the Ohio State tradition in emphasizing two leadership dimensions, instrumental and supportive leadership. These two dimensions are closely related to Initiating Structure and Consideration, respectively.

The theoretical notions provided by the Path-Goal Model of leadership were utilized in the present investigation. Thus, the present study examined whether the relationship between a principal's leadership emphases and teachers' classroom management skills was mediated by particular situational characteristics. That is, did that relationship differ given a different situational context?

The major leader variables of interest to the present investigation were those suggested throughout the leadership literature: the principal's emphasis on relationship-oriented and task-oriented leadership. The relationship- and task-orientation constructs were investigated in two ways. First, following past research, they were used as distinct scores in separate analyses. In addition, a proportion score was calculated and used in data analyses. This proportion score was computed as the ratio of the relationship-orientation score to the task-orientation score for each principal. This proportion score has been used as an additional principal variable since it is reasonable to investigate whether teachers respond to the contrast between their principal's relationship-orientation and task-orientation, as well as to the absolute levels of each.

Two situational characteristics were utilized as the contingency variables. The first was the subject matter taught by the teacher: English or mathematics. This attribute was chosen as a potentially important contingency because the empirical evidence associated with the

Path-Goal Theory suggests that degree of structure in the subordinate's task can be crucial in determining what kind of leadership will be effective. In a questionnaire completed at the end of the year, mathematics teachers reported allowing students to grade a greater percentage of their own work, giving more homework, and making more use of diagnostic testing than English teachers. In addition, more mathematics teachers referred to standardized test results as a measure of their teaching success than did English teachers. This evidence suggests that mathematics teachers faced a more structured task than English teachers.

The second situational characteristic utilized as a contingency variable was the number of years each teacher and his/her principal had been at the same school. This variable was chosen as a possible contingency because it is reasonable to suggest that the manner in which a teacher perceives and reacts to a principal's leadership will differ depending on the length of time that he/she has been working with that principal.

Thus, this study examined whether teachers' classroom management skills are associated with principal's leadership emphases, as mediated by the subject matter taught and the number of years that the principal and teacher had been working together. More specifically, the data analyses performed in this study were designed to examine whether the relationship between the teacher's classroom management and the principal's leadership is best described by an interaction between the principal's leadership emphases and the particular contingency variables considered.

Methods and Procedures

Data used in the present investigation were gathered in the Junior High Classroom Organization Study (JHCOS), a study of effective instruction in junior high school English and mathematics classes conducted in the 1977-1978 school year. A complete description of the background, rationale, and methodology of that study has been provided by Evertson, Emmer, and Clements (Note 3).

Subjects

Teachers from each of the 11 junior high schools in the JHCOS were asked to volunteer for participation in the study. A total of 53 teachers were randomly selected from the available pool of volunteers. Because two teachers withdrew from the study during the school year, the final sample consisted of 51 teachers. In addition, each of the principals of the 11 schools agreed to participate.

Instruments and Data Collection

Observer rating of teacher's management. The Observer Ratings of Teachers (ORT) is a questionnaire which consists of 303 items dealing with classroom arrangement and atmosphere, management techniques, teacher-student interactions, instructional techniques, and use of time. The rating scales for the items were either 1 to 5 or 1 to 2 (indicating either no or yes).

Observers were asked to complete a questionnaire at the end of the school year on each regularly observed teacher. Based on a factor analysis of the observer's responses, six factors were extracted. The first factor, concerned with classroom management, was used in the present data analyses. Representative items from that factor are: "Noise level of classroom in general," and "Level of student talk during individual seatwork."

Ratings of disruptive and inappropriate behavior. Approximately 27 1-hour observations were made on each teacher throughout the school year. After each classroom observation, observers were asked to complete a set of 44 ratings on the teacher, on the basis of a 1 to 5 rating scale. Two ratings, amount of disruptive and amount of inappropriate behavior, averaged from the fourth week of observations to the end of the school year, were used in the present data analyses. Ratings from the first 3 weeks of observations were not used as these variables were redefined during that time. Disruptive behavior referred to student behavior which interfered with instructional, attentional, or work activities of the teacher or two or more students. Inappropriate behavior referred to nondisruptive student behavior which was contrary to stated or implied classroom rules or standards. Intraclass correlations were computed on ratings made during the same class period by different observers, and on ratings of different class periods for the same teacher (Evertson et al., Note 3). The intraclass correlations for the disruptive rating were in the range from .36 to .74. The intraclass correlations for the inappropriate rating were in a range from .83 to .92.

Percentage of students on-task and off-task, unsanctioned. Every 15 minutes during each classroom observation, the observer counted the number of students who could be classified into several categories of engagement. Two of those categories, "on-task" and "off-task, unsanctioned," averaged across the year for each teacher, were used in the present analyses. The on-task category describes student behavior which was indicative of engagement in either an academic or procedural task. The off-task unsanctioned category was reserved for students who were

clearly misbehaving and involved in an activity of which the teacher disapproved. Intraclass correlations were computed on counts made during the same class period by different observers (Evertson et al., Note 3). The intraclass correlation for the on-task rating was .78 and for the off-task rating was .74.

Principals' leadership priorities. For the purposes of this study, the plan was to use the following items from the principal questionnaire to measure the principals' emphases on the two areas of leadership:

1) Principal's emphasis on relationship-oriented leadership:

a) amount of time spent in resolving interpersonal conflicts;

b) importance placed on providing a pleasant learning environment for students as a school goal;

c) importance placed on providing a pleasant working environment for school personnel as a school goal;

d) confidence in facilitating interpersonal relations within the school.

2) Principal's emphasis on task-oriented leadership:

a) amount of time spent in facilitating the development of instructional skills of teachers;

b) amount of time in facilitating the development of the classroom management skills of teachers;

c) frequency of meeting with individual teachers to discuss instructional matters;

d) frequency of meeting with entire faculty to discuss instructional matters;

e) frequency of meeting with individual teachers to discuss classroom management matters;

f) frequency of meeting with entire faculty to discuss classroom management matters;

g) confidence in providing leadership to teachers in terms of effective classroom instruction;

h) confidence in providing leadership to teachers in terms of effective classroom management.

Principals were asked to respond to each of these items according to a 5-point scale. In order to calculate scores in each of these areas for each principal, the principal's responses to the relevant items were averaged togeher. In addition, a ratio of the relationship-orientation to the task-orientation scores was computed. That is, each principal's relationship-orientation score was divided by his/her task-orientation score. In subsequent sections this ratio will be referred to as the proportion score, or as the relative emphasis a principal places on relationship-oriented leadership.

Data Analyses and Results

Item Analysis of Task-Oriented and Relationship-Oriented Scores

As outlined previously, the scores used as measures of the principals' emphases on the two areas of leadership were computed by averaging each principal's responses to particular questionnaire items. In order to investigate whether all items included in each score were measuring the same construct, the correlation was computed between each item and the total score of which it was a part.

Each of the four items which were averaged to create the relationship-orientation score were found to be positively correlated with the total score. Thus, all four items were retained in order to compute the relationship-orientation score.

Eight items were initially averaged to create a score designed to measure a principal's emphasis on task-oriented leadership. The last two of those items, "confidence in providing leadership to teachers in terms of effective classroom instruction" and "confidence in providing leadership to teachers in terms of effective classroom management," were uncorrelated with the total score when it was computed using all eight items. Thus, the task-orientation score was recomputed using only the first six items.

Data Analyses Directed Toward Theoretical Issues

A linear model is "solved" by determining what weights to apply to the predictor variables in order to maximize the correlation between the criterion variable and a weighted composite of the predictor variables. The square of the multiple correlation coefficient, R^2, is a measure of the ability of the model to "predict" the criterion variable.

One can test hypotheses about whether a variable or variables add significantly to the prediction of the criterion variable by creating two models, a "full" and a "restricted." The restricted model contains all the variables which are represented in the full model except for those variables which are being tested for their importance. An F-ratio is a function of the R^2 of the full and R^2 of the restricted models. The F-ratio and its associated probability value are used to determine whether the R^2 of the restricted model is significantly less than that of the full model. If it is, the conclusion is drawn that the variable which was dropped from the full model, in order to create the restricted model, adds significant information to the prediction of the criterion variable.

Based on the Path-Goal Theory of leadership, it would be hypothesized that the interaction between the principal's leadership emphases and the contingency variables of interest would be significant. Thus, the starting full model for data analyses included vectors representing interactions between the principal leadership variables and the contingency variables. All of the model specifications which follow include a vector containing the mean entering California Achievement Test scores of the teacher's class. This vector was included in order to "control for" the academic level of the teachers' students. Thus, the question is whether the principal variable provides information beyond that provided by students' entering ability.

The starting full model was represented as:

(1) TVAR = U + CAT + PVAR + SUBJ + YRS + (PVAR * SUBJ)
+ (YRS * PVAR) + (YRS * PVAR * SUBJ)

where TVAR is a vector which contains the scores on the teacher variable of interest; U is a vector containing only ones; CAT is a vector containing the mean entering California Achievement Test score for the students in the corresponding teacher's classroom; PVAR is a vector containing scores on the principal leadership variable of interest; SUBJ is a vector containing a "1" if the corresponding score in TVAR was obtained on an English teacher and a "2" if obtained on a mathematics teacher; YRS is a vector containing the number of years that the corresponding teacher in TVAR and his/her principal have been at the same school; (PVAR * SUBJ) is a vector containing the products of the corresponding scores in PVAR and SUBJ; (YRS * PVAR) is a vector containing the products of the corresponding scores in YRS and PVAR; and (YRS * PVAR *

SUBJ) is a vector containing the products of the corresponding scores in YRS, PVAR, and SUBJ.

The first step in the data analyses was to drop the product vector (PVAR * YRS * SUBJ). This test constituted an investigation of whether there was a significant second-order interaction among the variables represented by the vectors PVAR, YRS, and SUBJ. That is, whether the interaction between PVAR and YRS differed for English and mathematics teachers. To make this test, Model 1 was used as the full model and the following as the restricted model:

(2) TVAR = U + CAT + PVAR + SUBJ + YRS + (PVAR * SUBJ) + (PVAR * YRS).

The next test was one to determine whether there was an interaction between SUBJ and PVAR. This test was an investigation of whether the relationship between TVAR and PVAR was different for English and mathematics teachers. This test was performed using Model 2 as the full model and the following as the restricted model:

(3) TVAR = U + CAT + PVAR + SUBJ + YRS + (PVAR * YRS).

The next test was one to determine whether a significant PVAR by YRS interaction existed. This was an examination of whether the relationship between TVAR and PVAR for a teacher who had been associated her/his principal for relatively little time was different than for a teacher associated with his/her principal for a longer period of time. To make this test, either Model 2 or Model 3 was used as the full model. Model 2 was used if the probability value associated with the decrease in R^2 from dropping the (SUBJ x PVAR) vector was less than or equal to .25. In this case, the following was used as the restricted model:

(4) TVAR = U + CAT + PVAR + SUBJ + YRS + (PVAR x SUBJ).

Otherwise, Model 3 served as the full model and the following as the restricted model:

(5) TVAR = U + CAT + PVAR + SUBJ + YRS.

In the event that no significant interactions were discovered, a final test was made to determine whether a non-interactive relationship between TVAR and PVAR, existed using Model 5 as the full model and the following as the restricted model:

(6) TVAR = U + CAT + SUBJ + YRS.

Data analyses consisted of performing these tests separately for each pairing of the teacher (TVAR) and principal (PVAR) variables. The five teacher variables were: the observer rating of teacher's management; the amount of disruptive student behavior in the classroom; the amount of inappropriate behavior in the classroom; the percentage of students on-task; and the percentage of students off-task, unsanctioned. The three principal variables were: emphasis on relationship-oriented leadership; emphasis on task-oriented leadership; and the ratio of these two scores, i.e., the relative emphasis placed on relationship-oriented leadership.

In addition to these primary data analyses, all tests were repeated with the teachers' years of experience substituted for the number of years teachers and principals had been working together. This was done because the strong alternate hypothesis exists that it is the amount of experience a teacher has, rather than the number of years the teacher and the principal have worked together, which might explain obtained results. However, no significant findings were obtained when using years of teaching experience as a substitute for the amount of time the

principal and the teacher had worked together, even though the two variables are significantly correlated.

Results of Data Analyses

Table 1 provides a summary of the results of data analyses. In cases of significant results, the difference between the R^2 of the full model and the R^2 of the restricted model is provided, along with the probability value associated with that difference.

Test for a second order interaction. The first analysis performed in the case of each of the five criteria was a test to determine whether a significant second-order interaction among the variables represented by the vectors PVAR, SUBJ, YRS existed. There were three variables represented by the vector PVAR in these and all other analyses. Those variables were the amount of emphasis principals reported placing on relationship-oriented and task-oriented leadership, as well as a proportion score which represented the emphasis on relationship-orientation relative to task-orientation. The test for second-order interactions was performed by using Model 1 as the full model and Model 2 as the restricted model. No significant second-order interaction was found for any pairing of the leadership variables (PVARs) and the classroom management variables (TVARs).

Test for a SUBJ by PVAR interaction. The next test was one to determine whether a significant interaction existed between the variables represented by the vectors SUBJ and PVAR. This test was performed by using Model 2 as the full model and Model 3 as the restricted model. In one case, when the amount of disruptive behavior in the classroom served as the criterion variable and the proportion score served as the

principal variable of interest, a significant interaction was found ($p = .04$).

A graphic representation of this SUBJ by PVAR interaction is provided in Figure 1. In general, Figure 1 depicts a negative relationship between the amount of disruptive behavior in a teacher's classroom and the relative amount of emphasis the teacher's principal places on relationship-oriented leadership. However, the negative relationship is steeper for mathematics teachers so that mathematics teachers are rated as having more classroom disruptive behavior than English teachers for lower values of the principal's proportion score, but rated as having less disruptive behavior for higher values of the principal's proportion score.

Tests for a YRS by PVAR interaction. Though none of the other tests of a SUBJ by PVAR interaction were significant, in four other cases the probability value associated with the test was less than .25. In each of these cases, the subsequent test, to determine whether an interaction of YRS and PVAR existed, was performed by using Model 2 as the full model and Model 4 as the restricted model. Otherwise, the test was performed by using Model 3 as the full model and Model 5 as the restricted model. Those instances in which Models 2 and 4 were utilized are highlighted in Table 1 by one line appearing under the probability value associated with that test.

No significant interactions were found when the student engagement ratings, the average percentage of students on task and unsanctioned off task, were used as the criterion variables. However, significant YRS by PVAR interactions were found for the other three classroom management variables when the proportion score was used as the PVAR of

interest. The probability values associated with these tests were .09, .005, and .03 when using, respectively, the management scale score from the Observer Rating of Teachers, amount of disruptive behavior, and amount of inappropriate behavior as the criteria.

In addition, another PVAR by YRS interaction was discovered when the amount of disruptive behavior in the classroom was used as the TVAR of interest and the amount of emphasis principals reported placing on task-oriented leadership was used as the PVAR of interest ($p = .04$). Figure 2 is a graphic representation of this interaction. For those teachers who had spent relatively fewer years working with their principal, there is a positive relationship between the disruptive behavior rating and the emphasis the principal reports placing on task-oriented leadership. However, this relationship is negative for those teachers who had been working with their principals for a relatively long period of time.

As noted earlier, a significant YRS by PVAR interaction was found for three of the classroom management variables, the management scale score and the ratings of disruptive and inappropriate behavior when the proportion score was used as the PVAR of interest. The nature of the interaction is the same for all three variables. Figure 3 describes that interaction. There is a positive association between better classroom management, represented by a higher score on the management scale or a lower score on the disruptive and inappropriate behavior rating, and the relative emphasis principals report placing on relationship-oriented leadership for those teachers who had spent relatively fewer years with their principals. In contrast, this association is negative

for those teachers who had spent relatively more years with their principals.

Tests for non-interactive relationships. For those TVAR-PVAR pairings for which no significant interactions were found, a test to determine whether a simple relationship existed between the TVAR and PVAR of interest was performed. This test was accomplished by using Model 5 as the full model and Model 6 as the restricted model. No significant relationships were thus discovered.

Discussion

Potential Problems in Interpreting Results

There are two characteristics of the present study which pose potential problems for the interpretation of results of data analyses. Thus, these aspects must be considered before explanations for the results are suggested. These characteristics are the self-report nature of the information obtained from the principals and the nonexperimental nature of the study.

Adequacy of the principal self-report data. The prevalent view in educational and psychological research is that a behavioral measure of a construct is, without question, a better index of that construct than is a self-report measure.

However, Howard, Maxwell, Wiener, Boynton, and Rooney (1980) made a cogent argument that one type of data should not be preferred over the other simply as a matter of course. Admittedly, a number of factors are potential contaminants of self-report data, e.g., social desirability, selective perception, and memory distortion (Millham & Jacobsen, 1978). However, Howard et al. (1980) noted that potential sources of invalidity also exist for behavioral estimates, e.g., method variance, situation

variance, natural variability within a given method and situation, obtrusive measurement variance, and rater variance. They contended that:

> Researchers often forget that any measure . . . represents an estimate of some construct parameters. Given the existence of uncontrolled sources of contamination present in both behavioral and self-report measures, to arbitrarily select one over the other as a more appropriate estimate of behavioral parameters is inappropriate. (pp. 4-5)

Howard et al. (1980) discussed three studies which compared the accuracy of behavioral and self-report measures of the same phenomenon. Those studies involved the measurement of assertiveness, students' in-class behavior, and number of teacher-student in-class interactions. All three of the studies found the self-report measure used to be at least as accurate as the behavioral measures which were used.

Evidence provided by these studies supports the argument that it is an empirical question whether a behavioral measure of some construct is necessarily more valid than a self-report measure. The argument is important for the present report in that it provides a framework which does not view the information used here to be, by definition, inferior. However, even though the relative merit of self-report, as opposed to behavioral, data may be an empirical question, the nature of the present data does not allow an investigation of that empirical question since only self-report data are available. Thus, the extent to which various threats to self-report data have contaminated the present information on the principal's leadership priorities cannot be determined.

However, a number of characteristics of the data at hand provide partial evidence for its meaningfulness. First, only items which positively correlated with the total score were included on the

relationship- and task-orientation scales, suggesting that all the items measured the same construct. Second, no zero-order correlation was found to exist between principals' relationship-oriented and task-oriented leadership scores, suggesting that the principals responded to these two areas of interest independently.

In addition, teacher responses in an end-of-year interview provide incidental evidence for the validity of the task- and relationship-orientation scores. Two of the items from the semi-structured interview are of interest here: one concerning the frequency and nature of teacher contacts with other school personnel and the other relating to whether the teacher liked working at his/her school. In many cases, teachers made reference to their principals in response to one or both of these general questions. Unfortunately, the same kind of information was not asked of and/or offered by all of the teachers in regard to principal behavior. Thus, these data do not provide a validity check, per se, on the principal self-report data. However, some support for the meaningfulness of the principal data is provided by selected quotes from those teacher interviews. Consider the following quotes from some of the teachers in the two schools in which the lowest principal task-oriented scores were obtained:

> . . . the reason why we're having more discipline problems this year . . . would be the administration. [The principal] will not take a stand and I feel like [he/she] is in the position that [he/she] has got to -- [the principal] is the one who has got to make a very definite stand . . .;
>
> [The principal] is less than efficient . . . [he/she] keeps the school from running well . . . [the principal] doesn't get things done on time . . .; [This school's] biggest flaw . . . is our principal at this point. I have seen programs dwindle in the last two years that we really worked hard on putting together, simply because of the lack of authority that needs to be there . . .

In contrast, consider selected quotes from some of the teachers in two schools in which the highest principal task-orientation score was obtained:

> [The principal] knows what we're doing, and [the principal] is working with us, and we're working with [him/her] . . .;
>
> I like working in a structured environment. I like freedom of choice within bounds. I like to have a routine . . . These are the sorts of things that [the principal] likes also and [he/she] runs the school this way.

Next, make note of a remark made by a teacher who worked in a school from which the lowest principal relationship-orientation score was obtained:

> I feel that the principal's role as far as establishing morale . . . I need somebody up there in that captain's chair that is leading me on a positive trip . . . I need somebody who is human, somebody who can feel with me as a person. That is, somebody I can feel a warmth and rapport with in a relationship and not be cut off from. I feel that our main problem in this building now is that our main administrator is a paper pusher. [The principal] hides behind a closed door [and] fills out reports . . .

In contrast, consider some quotes from teachers working in schools from which the highest principal relationship-orientation scores were obtained:

> I guess someone else, meeting [the principal] for the first time, their immediate impression would be that [he/she is] a small town . . . or a country [person] or something like that; but [he/she] is a very easy-going personality. [The principal] doesn't get easily upset and as a result can calm you down very easily . . .;
>
> [The principal] is a much gentler [person than the previous principal], not always to the school's benefit. We don't have as firm a discipline now as we did, but the attitude and the lack of prejudice, loving anybody for whatever they are wherever they are is here.

In summary, the extent to which potential contaminants to self-report data have affected the present principal leadership information

is unknown. However, recent empirical evidence (Howard et al., 1980) suggests that we need not consider the self-report data, by definition, to be inferior. Moreover, a number of characteristics of the data, the positive correlation of individual items with the total relationship- and task-orientation scores and the statistical independence of those total scores from one another, provide evidence for their fitness. In addition, information from end-of-year teacher interviews furnishes incidental evidence for the meaningfulness of the self-report data.

Implications of the nonexperimental nature of the study. The other characteristic of the present study which potentially poses problems in interpreting results is the fact that it is a nonexperimental or passive-observational study. That is, the questions of interest involve the manner in which particular variables covary with one another, in spite of the fact that none of the variables were deliberately manipulated. Two major points must be made in regard to this issue: first, that no inferences about causation can be directly drawn from the present data analyses and, second, that the "design" of the "experiment" is less than ideal because the object of study was observed as it existed in nature. These issues will be addressed in the following paragraphs.

As mentioned, because of the lack of experimental manupulation, no inferences about causation can be drawn directly from the present data analyses. Of course, a theoretical argument can and has been provided as a framework from which to argue that a "causal" relationship might underlie the observed covariation.

It is important to stress at this point, however, that the "causation" which has been discussed in theory and will be implied in

the discussion of results is not to be construed as causation in the classical sense. Cook and Campbell (1979) considered a traditional view of causation to emphasize three conditions: contiguity between the presumed cause and effect; temporal precedence of the cause; and constant conjunction, i.e., the cause must necessarily be present whenever the effect occurs. Cook and Campbell subsequently made a distinction between molar causal laws and micromediation. Molar causal laws are those which refer to large and complex interrelationships among many variables, whereas micromediation refers to the separate interrelationships which constitute the molar laws. It is only at the level of micromediation, if at all, that one can expect to discover "true" causal relationships, as defined in the classical sense.

The present report is concerned, however, with an issue at the molar law level. "Molar causal laws, because they are contingent on many other conditions and causal laws, are fallible and hence probabilistic" (Cook and Campbell, 1979, p. 33).

It is in recognition of the complexity of the molar law level that the present report has involved an investigation of contingency variables. That is, an attempt has been made to determine whether certain aspects of the situation under study affect the probability that a theoretical molar law holds. Specifically regarding the present discussion, the theoretical molar law under consideration involves the relationship between a leader's priorities and particular subordinate characteristics. The micromediation involved in this molar law has obviously not been fully specified. But one aspect of the hypothesized micromediation which is illustrative of the present point is that the task-oriented behaviors of the leader serve to clarify the goals for the

subordinates. Thus, a positive relationship betwen the task-orientation of the leader and the performance of the subordinates should be expected. Because other laws operate simultaneously at the micromediation level, however, contingencies must be addressed. If the subordinate is already aware of the goals, the structure provided by the task-oriented leadership may be redundant to the subordinate and the relationship may thus not hold. Moreover, if the subordinate perceives the task-oriented leadership not only as redundant but also as an imposition, the relationship may become negative.

Thus, the "causality" being considered here is not traditional. By recognizing the importance of studying the complexity of the molar laws which operate in our world, the certainties of the laboratory setting are often forgone to investigate the probabilities of the field setting. However, another major issue needs to be addressed regarding the choice of situating the present investigation in the field, the less than ideal "design" of the "experiment."

The major questions of interest to this study were whether the subject matter taught by teachers and/or the number of years that teachers had been associated with their principals mediate the relationship between the principals' leadership and the classroom management skills of their teachers. Thus, in order to eliminate alternate hypotheses for the results, it would be preferable to have all levels of each of the contingency variables to be represented in every school. However, though both English and mathematics teachers were present in every school, both high and low values of the variable, years that principals and teachers had been together, were not represented in every school. This is due to the fact that in some schools the principal was

relatively new. Thus, no matter how long the teacher had been in the school, the number of years that the principal and teacher had been together was necessarily relatively few.

In addition to this problem, the classic problem of passive-observational and quasi-experimental studies, nonrandom assignment of subjects, exists for the present study. Thus, if a relationship between a principal's leadership and her or his teachers' performance is noted, one could suggest an alternate hypothesis for that result, i.e., that some other characteristic of the school has "caused" the observed relationship.

Although both of these characteristics make for an "experimental design" which is less than ideal, the fact that leadership orientation scores, and not school membership vectors, are the predictors of interest decreases the salience of these "design errors." Consider: Because the task-orientation score of several principals is, for example, 3.5, estimates from several schools of expected values for teachers who are linked with a principal with a score of 3.5 are available. Thus, if it were discovered that teachers who are linked with such principals tended to have a high score on some other variable under study, it is less likely that it is some other characteristic of the schools "causing" this association than if this study were designed so that each principal had a different leadership score. In like manner, because some of the schools where teachers and principals had all been together a relatively short time were characterized by low principal leadership scores, and some by high or average principal leadership scores, the chances decrease that it is an uninvestigated school characteristic "causing" any observed interactions between principals' leader-

ship emphases and the amount of time that principals and teachers had been together.

Of course, although the present state of affairs decreases the viability of the alternate hypothesis that some other school characteristic has "caused" the observed relationships, the hypothesis is still a tenable one and cannot be totally discounted given the nonexperimental nature of the study.

In summary, the passive-observational nature of the present study presents potential problems in interpreting the results. Particularly, inferences about causation cannot be drawn directly from the present statistical analyses and rejection of the alternate hypothesis, that some other characteristic of the schools might have "caused" the discovered relationships, is not possible.

Possible Limits to the Generalizability of the Study

Before discussing the results of the study, possible limits to the genalizability of those results should be stressed. First, the results of the present study should not be extended beyond the junior high school level without a thorough consideration of the organizational differences among different school levels which might have implications for the results or their interpretation. Second, only one female principal was included in the present study. Thus, these results should not be generalized beyond the situation in which the principal is male. Finally, the study was undertaken exclusively within one school district. Thus, the possibility that crucial school district "effects" might exist and should be considered before generalizations are made beyond the district studied.

Discussion of Results

The five classroom management criteria were the management scale score from the end-of-year Observer Ratings of Teachers, the average amount of rated disruptive and inappropriate behavior in the teacher's classroom, and the average percentage of students who were on-task and off-task, unsanctioned, in the teacher's classroom.

No findings were obtained when the student engagement ratings, the average percentage of students on task and off task, unsanctioned were used as criteria. However, these ratings were different in nature from the other classroom management criteria. The student engagement ratings represented actual counts of students who were engaged while the other criteria were more direct ratings of teacher behavior. Though the ratings of disruptive and inappropriate behavior were also ratings of student behavior, they were a higher inference measure and thus were more likely to include the observer's ratings of the teacher's skills as well as of student behavior. The theoretical rationale outlined in this report argues for a link between teacher and principal characteristics. If any link exists between principal and student behavior, however, it can be expected to be weaker than that between teacher and principal behavior. Thus, it is not a surprise that results would be obtained when using higher inference measures of teacher's classroom management skills and not when actual counts of student behavior were used.

When each of the other three management variables were used as criteria, a similar interaction of the years that the principal and teachers had been together and the relative emphasis principals reported placing on relationship-oriented leadership was discovered. Before positing a possible interpretation for this result, the other two

significant interactions which were obtained when the average amount of disruptive behavior was utilized as the criterion of interest will be considered.

The first of those interactions shows a stronger negative relationship between the amount of disruptive behavior in the classroom and the relative emphasis a principal reported placing on relationship-oriented leadership for mathematics teachers than for English teachers. This finding suggests that the mathematics teachers in the present study may have been more responsive to a principal who provided a higher relative mix of relationship-oriented to task-oriented leadership. Evidence that this may be the case is provided by the fact that the mathematics teachers in this sample had higher scores than the English teachers on the social-emotional concerns scale from the teacher belief inventory which was included in an end-of-year Teacher Questionnaire. A high score on this subscale indicated a greater degree of agreement with items of which the following are representative: "The teacher assures optimum learning conditions by giving top priority to the social-emotional needs of the pupils" and "The development of social and emotional security for pupils is the most important function of the school."

The second interaction which was obtained when the average amount of disruptive behavior was utilized as the criterion indicates that the relationship between principal emphasis on task-oriented leadership and the amount of disruptive classroom behavior is negative for those teachers who had spent relatively more years with their principal and positive for those teachers who had spent less years.

The Path-Goal Theory holds that task-oriented leadership serves to provide structure for the subordinate in the performance of her/his task. It thus predicts that the relationship between task-oriented leadership and subordinate performance will be stronger for those subordinates whose task is less structured. It does not seem reasonable, however, to explain the present finding with this rationale. In order to do so, one would need to contend that the task faced by teachers who have spent more years with their principal was less structured than for those teachers who have spent less years. There is, however, no evidence that this is the case.

Though it is not clear what characteristics of the situation may have resulted in the present interaction, a possible interpretation can be suggested. It may be that better classroom management, when defined in terms of disruptive classroom behavior, is associated with higher principal task-orientation for teachers who have worked with their principals longer, due to the teachers' accumulation of knowledge over the years. That is, as a teacher spends more years with a highly task-oriented principal he/she may accumulate more and more knowledge from the experiences provided by the principal. Thus, for those teachers who have spent more years with their principal, high task-oriented leadership is associated with better management of classroom disruptions.

This rationale cannot be reasonably extended to explain why better management of classroom disruptions is associated with lower principal task-orientation for those teachers who have spent relatively fewer years with their principal. It is possible, however, that these teachers perceive high task-oriented leadership as an imposition on or infringement into their private domain.

Before discussing a similar interaction which was obtained using all three of the classroom management variables, why these two particular interactions were discovered only when amount of disruptive behavior was used as the criterion of interest will be addressed. It is likely that the rating of disruptive behavior may be the classroom management criterion which is most sensitive to variation in principal leadership emphases. That is, if some relationship did exist between the principal's leadership and teachers' classroom management, it may be observed first if the amount of disruptive classroom behavior were used as the measure of management. Such a suggestion is based on the fact that principals traditionally play a more active role in student behavior if it is disruptive. Moreover, school-wide rules are more likely to involve student behavior which is disruptive. Thus, this criterion may be more sensitive to the principal's leadership emphases because those emphases may impact student as well as teacher behavior.

The next interaction involved the relative emphasis principals report placing on relationship-oriented leadership and the amount of time teachers and principals have worked together in predicting teachers' classroom management skills, when those skills are measured either by observer's rating of the teacher's management, the average amount of rated disruptive behavior, or the average amount of rated inappropriate behavior in the classroom. This interaction is one in which better classroom management is associated with higher relative principal emphasis on relationship-oriented leadership for those teachers who have been working with their principals few years. In contrast, better classroom management is associated with lower relative principal emphasis on relationship-oriented leadership, or higher

relative emphasis on task-oriented leadership, for those teachers who have been working with their principals for more years.

It seems reasonable to explain the present set of interactions by suggesting that teachers who have been with their principals for a relatively short time are more likely to respond to the principal who provides more relationship-oriented leadership than task-oriented leadership. In contrast, the teacher who has worked with her/his principal for a longer time may perceive a higher relative mix of relationship-orientation as an unnecessary hindrance to the tasks at hand, unnecessary since the personal bond between the principal and teacher has presumably been already formed.

Data were not gathered to test whether the processes governing the relationship between principals and teachers differ depending on the number of years they have spent togeher. However, evidence that particular problems, which may demand a higher relative mix of relationship-oriented leadership, may occur in the early phases of the relationship between a principal and teachers is provided by a quote from one of the teacher interviews:

> "I think that the faculty is close. We have always been close. . . . Now, last year was a little bit different when [the principal] took over. We had a lot of problems with [him/her]. The teachers were fighting amongst themselves. It just wasn't a very fun year, but we still had a lot of support discipline-wise. It just wasn't fun for us and the kids could see that. You know, we were all on edge . . ."

Further evidence that teachers who have been with their principals longer may appreciate less of a relative emphasis on relationship-orientation is provided by the positive correlation between the number of years principals and teachers have been together and the role separation scale from the end-of-year Teacher Questionnaire. Thus, teachers

in the present sample who had spent relatively more years with their principal were more likely to obtain a high score on the Role Separation scale. Representative items from this scale are: "Teacher effectiveness becomes seriously impaired when the teacher permits himself to become emotionally involved in the personal problems of pupils" and "Pupils are induced to greater motivation when the teacher remains somewhat aloof in the interpersonal affairs of the class."

Implications of Results for the Path-Goal Theory

Results of the present investigation provide support for the theoretical emphasis placed by the Path-Goal Theory on contingency relationships in that all of those results involved an interaction between a leadership and contingency variable.

However, the present results provide only partial support for the stress placed on task structure by the Path-Goal Theory since only one finding involved the distinction between English and mathematics teachers as a contingency. It is probable that task structure is confounded with job status for the samples upon which past research on the Path-Goal Theory has been performed. That is, task structure probably was higher for those subordinates whose job status was low. This situation is not recreated with the present sample. Though English and mathematics teachers' jobs differ in terms of task structure, they do not necessarily differ in terms of status. That the results obtained with this sample are not in line with those obtained when other samples have been used suggests that the effects of task structure and job status need to be theoretically and empirically disentangled.

Moreover, the present results suggest a different contingency as being more useful in describing the association between leader and

subordinate behavior, at least in the organizational setting which was studied. That contingency was operationalized here as the number of years principals and teachers had been working at the same school. It seems reasonable that the contingency involves different perceptions of leader behavior on the part of subordinates who have been working with their leader for different periods of time. Future research on the Path-Goal Theory should include some investigation of this contingency, preferably in conjunction with a variable which will be discussed in the following paragraph, the relative emphasis on relationship-oriented leadership.

Finally, the present study provides evidence that the two basic theoretical constructs of the Path-Goal model, relationship- and task-orientation, are meaningful in differentiating among leaders. However, the current results suggest that a reconceptualization of these constructs might be in order. Only one of the results concerned either of these two constructs per se. The rest of the results concerned a measure of the relative mix of the constructs, specifically, the emphasis on relationship-orientation relative to the emphasis on task-orientation. These findings suggest that, at least when studying certain contingency variables, it may be more useful to investigate the contrast of the leaders relationship- and task-orientations rather than the absolute levels of those constructs.

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Table 1

Summary of Results of Data Analyses

	Criteria									
	Management Scale		Disruptive Behavior		Inappropriate Behavior		Percent On-task		Percent Off-task	
	Difference in R^2	p	Difference in R^2	p	Difference in R^2	p	Difference in R^2	p	Difference in R^2	p
Second-order Interaction[1]										
Relationship		ns		ns		ns		ns		ns
Task		ns		ns		ns		ns		ns
Proportion		ns		ns		ns		ns		ns
First-order Interaction with SUBJ[2]										
Relationship		ns		ns		ns		ns		ns
Task		ns		ns		ns		ns		ns
Proportion		ns	.07	.04		ns		ns		ns
First-order Interaction with YRS[3]										
Relationship		ns		ns		ns		ns		ns
Task		ns	.07	.04		ns		ns		ns
Proportion	.05	.09	.14	.005	.08	.03		ns		ns

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Table 1, Continued

	Criteria				
	Management Scale	Disruptive Behavior	Inappropriate Behavior	Percent On-task	Percent Off-task
	Difference in R^2 / p	Difference in R^2 / p	Difference in R^2 / p	Difference in R^2 / p	Difference in R^2 / p
Noninteractive Relationship[4]					
Relationship	ns	ns	ns	ns	ns
Task	ns	X[5]	ns	ns	ns
Proportion	X	X	X	ns	ns

[1]Tests for second-order interactions performed using Models 1 and 2.

[2]Tests for first-order interactions with SUBJ performed using Models 2 and 3.

[3]Tests for first-order interactions with YRS performed using Models 3 and 5 if p value is not underlined and Models 2 and 4 if p value is underlined.

[4]Tasks for noninteractive relationships performed using Models 5 and 6.

[5]If an X appears, the test was not performed.

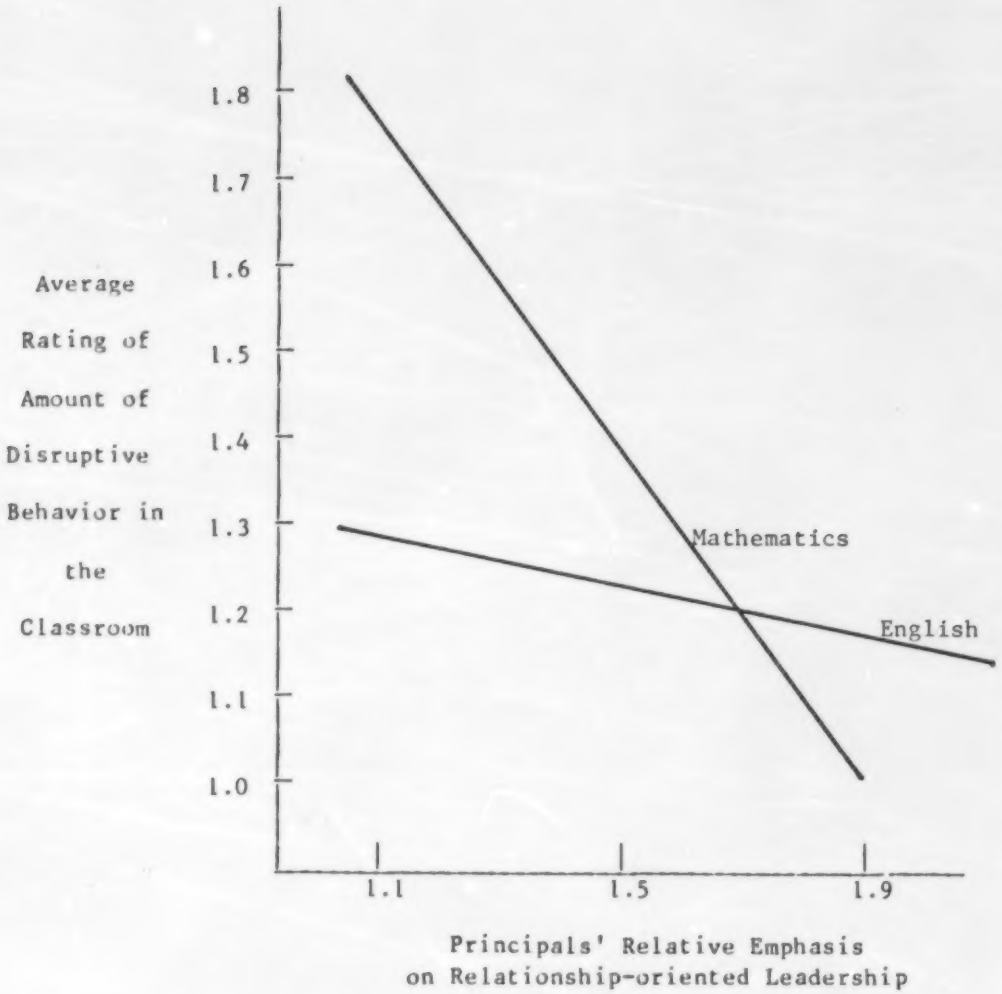

Figure 1. The interaction of the relative emphasis principals place on relationship-oriented leadership and the subject matter taught by the teacher in predicting the average rating of the disruptive behavior in the teachers' classrooms.

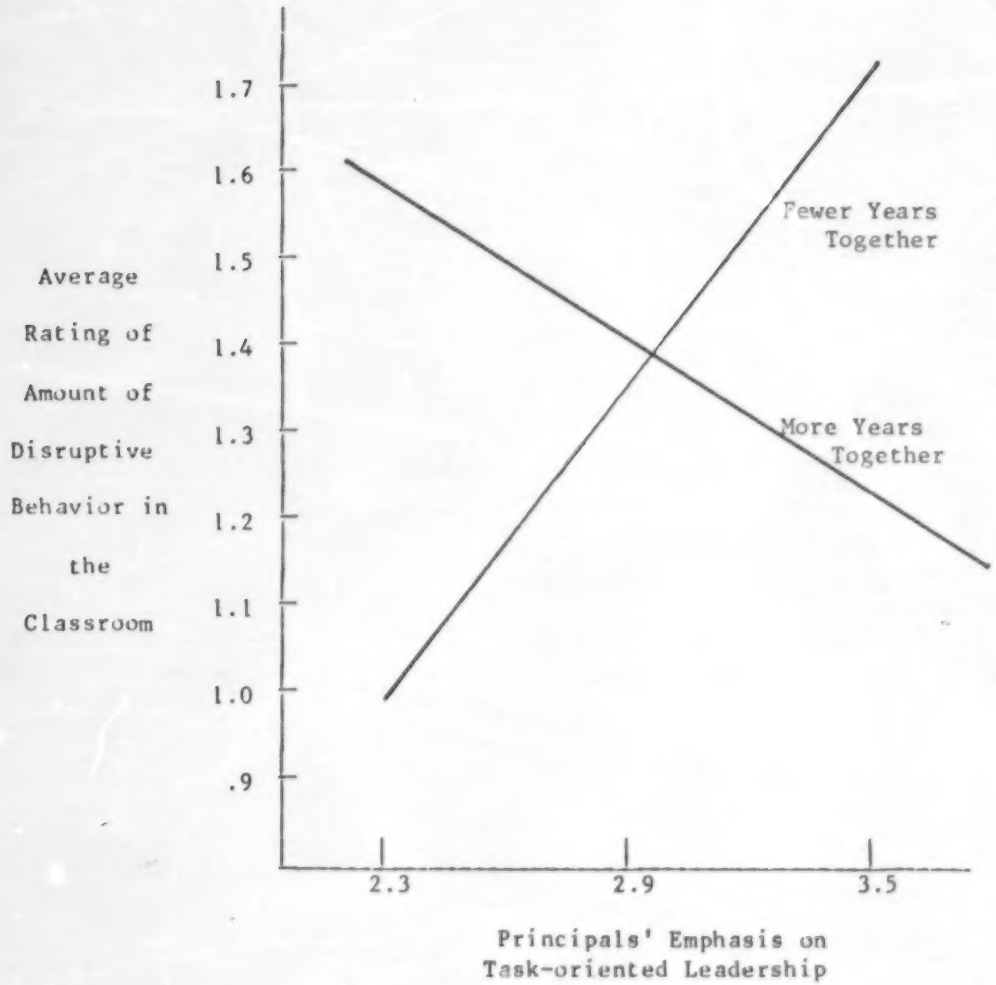

Figure 2. The interaction of the emphasis principals place on task-oriented leadership and the amount of time teachers and principals have worked together in predicting the average rating of the amount of disruptive behavior in the teachers' classrooms.

[1]Fewer years together = 1.2 years
[2]More years together = 4.2 years

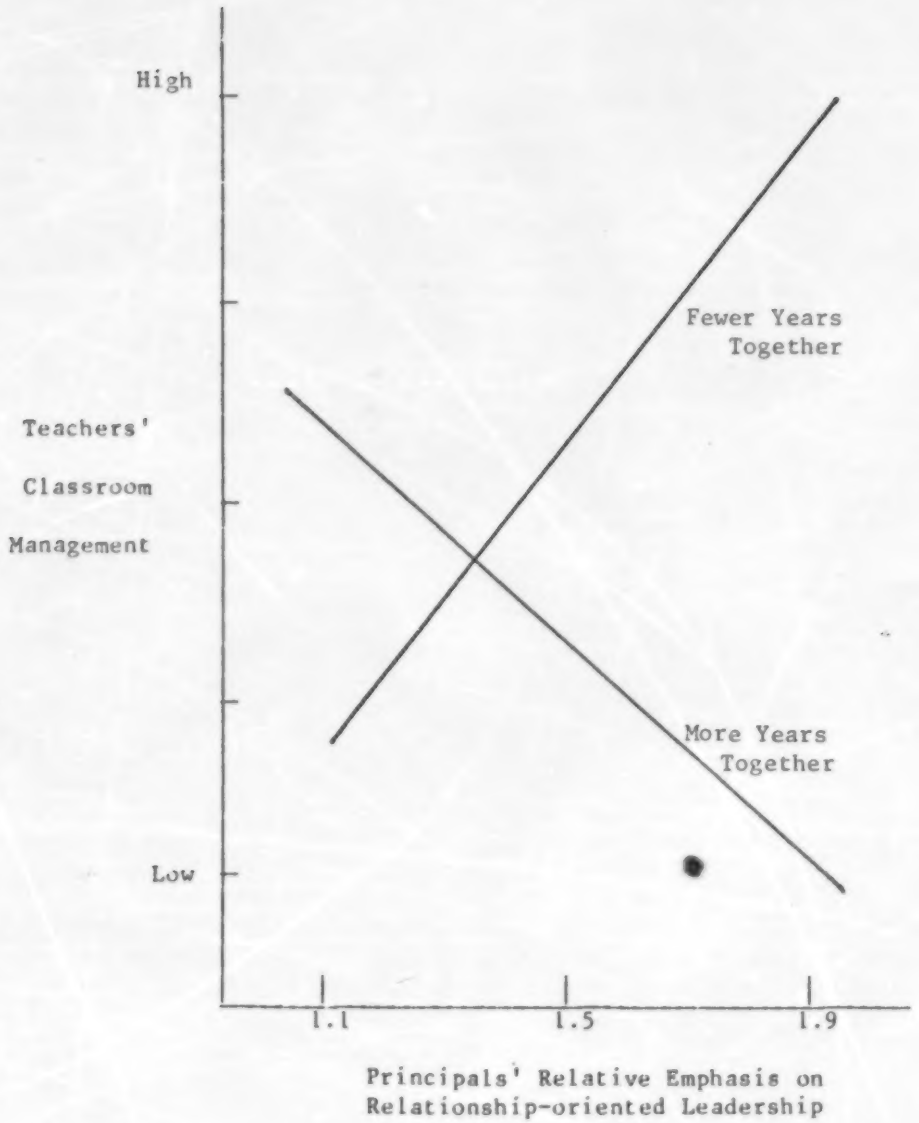

Figure 3. The interaction of the relative emphasis principals place on relationship-oriented leadership and teachers' classroom management.

[1]Fewer years together = 1.2 years
[2]More years together = 4.2 years